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Orthotics and prosthetics

Oral communications

CO04-001-e

Unloading knee braces in the management of knee osteoarthritis: A literature review

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Introduction Osteoarthritis is the eleventh cause of years lived with disability. The non-pharmacological care management of knee osteoarthritis is of major importance according to the international published recommendations (OARSI, EULAR); unloading knee braces are functional devices designed to decrease load across the knee.
Methods We performed a literature review from Medline database until September 2014. Papers in English and in French have been selected and analyzed if they studied clinical and biomechanical effects of unloading knee braces. The key terms included: "osteoarthritis, knee osteoarthritis, braces, knee braces". The references mentioned in these papers have been screened.
Results Twenty-four studies have been selected, two of them were randomized controlled clinical trials, with a total number of patients of 665 (mean age: 57.5 years, 177 women). GII Unloader® Knee Brace was the most used (10/24). Seventeen trials investigated the effects on pain, function and disability. VAS-pain and WOMAC were significantly improved. Walking speed increase has been reported in two studies. Effects on proprioception seemed to be positive and two studies reported a decrease of muscular co-contraction. Seven trials showed a decrease of the external knee adduction moment. A decrease of varus angulation and an increase of condylar separation have been reported. We noticed a poor compliance due to the large volume of the brace and just one case of deep venous thrombosis has been shown.
Discussion/conclusion Few studies were controlled and randomized, and methodological quality was weak in lot of them. Biomechanical effects of the unloading knee braces remain unclear. It would be interesting to evaluate their effect on the osteoarthritis disease progression.
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Knee ankle foot orthoses in treatment of genu recurvatum: Evaluation of efficiency, users' satisfaction and tolerance

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Introduction The aim of this study is to evaluate the efficiency, users' satisfaction and tolerance of the Knee Ankle Foot Orthosis (KAFO) in treatment of painful genu recurvatum (PGR).
Material and method Epidemiologic retrospective monocentric study. Patients having a clinical PGR on stance phase confirmed by a practitioner. The main outcome was the pain before and after having the KAFO evaluated with the numerical verbal scale (NVS) of pain rated on 100 and the simple verbal scale (SVS) of pain. The secondary outcomes were the French version of the Quebec user evaluation of satisfaction with assistive technology (QUEBEC 2.0) and a numerical scale of satisfaction (NSS) rated on 100.
Results Twenty-seven patients but 31 KAFO have been analyzed (4 patients had both KAFO): 25 free knee joints/6 locked knee joints. Before and after having the KAFO, the NVS of pain decreased from a mean of 80/100 to 26.9 ($P \leq 0.001$) and the SVS of pain from "extreme" to "weak" ($P \leq 0.001$). The French version of the QUEBEC 2.0 had a total of 4.04 and the NSS had a mean of 86/100.
Discussion With this study, it was shown that treating a PGR with a KAFO is efficient on pain whatever the pathology from which the patient is suffering, and the patient satisfaction is good.
Keywords Knee Ankle Foot Orthosis; Pain; Genu recurvatum
Disclosure of interest The authors declare that they have no conflicts of interest concerning this article.

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Satisfaction of patients with orthopaedic prosthesis made in the orthopedic center of the CNHU-HKM of Cotonou

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